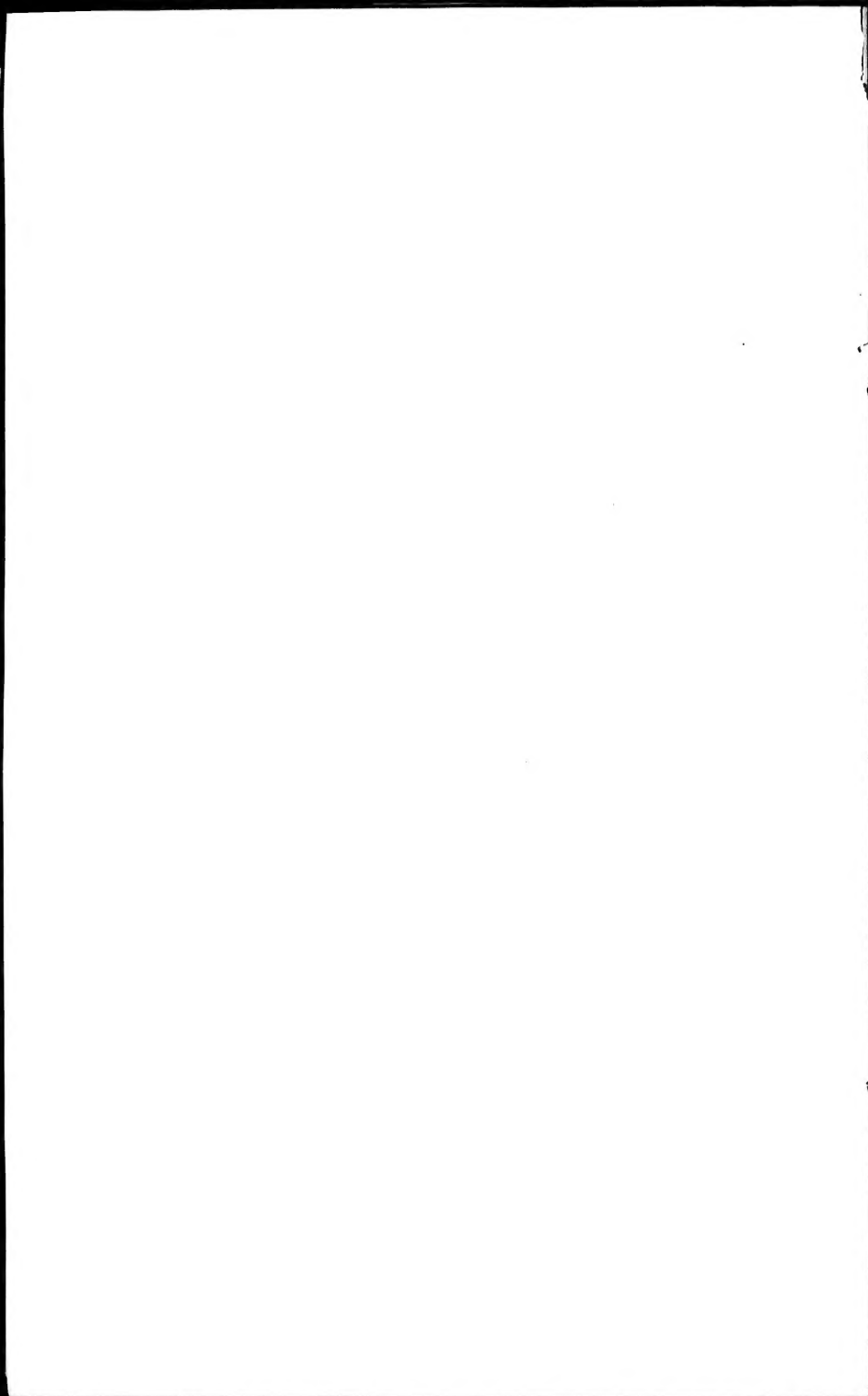
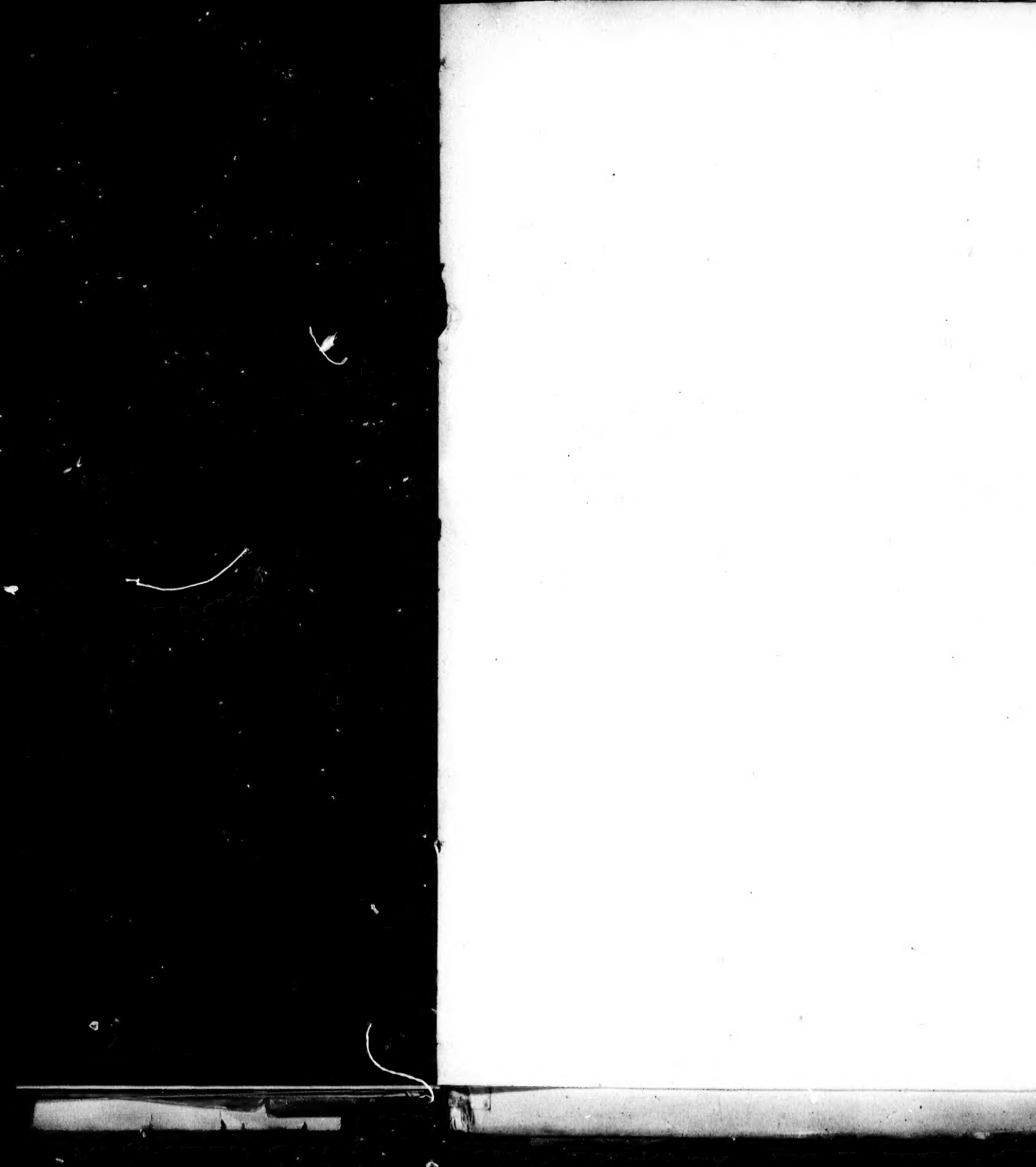






Anatomical Notices.

ON SOME ANATOMICAL VARIATIONS. By FRANCIS J. SHEPHERD, M.D., C.M., M.R.C.S. Eng., *Demonstrator of Anatomy, M'Gill University, Montreal.*

THE following are some of the more interesting variations which were observed in the dissecting-room of the M'Gill University during the Winter and Summer Sessions of 1879-80, and which I think worthy of being recorded:—

Dorso-Lumbar Vertebra.—This occurred in a male subject. There was the usual number of cervical and dorsal vertebrae, then came this extra one, and it was followed by the usual number of lumbar vertebrae. This supernumerary one partook of the characters of both a lumbar and a dorsal vertebra; on the right side it had a small rib $1\frac{3}{4}$ inches long, and $\frac{1}{4}$ of an inch broad, articulating with it. This rib had a downward direction, and was grooved on its under surface. It was bound down by ligaments to the whole length of a transverse process $\frac{1}{3}$ of an inch long. The rib was not freely moveable.

On the left side there was a transverse process which looked very like a rudimentary rib, and had the downward direction of a rib. It was the same length as the transverse process of the first lumbar vertebra, but much narrower, and rounded. At its root it was nearly $\frac{1}{2}$ an inch broad. As it proceeded outwards, it became much smaller, being only $\frac{1}{8}$ th of an inch broad, and it ended in a bulbous extremity. The whole vertebra was of the usual size of a lower dorsal. In this subject the abdominal aorta divided opposite the third lumbar.

Eight Ribs articulating with the Sternum, three with the first piece.—In a male subject aged forty years, it was noticed, on preparing it for dissection, that the chest was of unusual length. On examination, this was found to be due to the fact that the first piece of the sternum was twice as long as normal, and had the cartilages of the first three ribs articulating with it. With the second piece the next five ribs articulated, thus making in all eight ribs articulating with the sternum. The ensiform cartilage was completely ossified, and articulated with the gladiolus by means of cartilage. The inner halves of the cartilages of the first ribs were also completely ossified. The second costal cartilage articulated with the first piece of the sternum about its middle, and the third cartilage at the junction of the first and second pieces.

Length of sternum, exclusive of ensiform cartilage,	$7\frac{1}{2}$ inches.
„ manubrium,	$3\frac{1}{2}$ „
„ gladiolus,	4 „
„ ensiform cartilage,	$1\frac{1}{2}$ „

This variety of sternum is rather unusual, and is the first and only case in which I have seen such an arrangement of the ribs, although since I have had this preparation, I have examined several hundred chests in hospital, and have seen none with three ribs articulating with the first piece of the sternum. That this is a rare variety of the sternum, is shown by the fact that text-books on surface marking always give as a guide to the second rib the junction of the first and second piece of the sternum. Professor Humphry, in his valuable work on the "Human Skeleton," refers to this abnormality as being mentioned in Meckel's *Archiv*, iv. 480. This is the only reference to it that I can find.

Unusual Sesamoid Bone.—In left foot of a muscular man, a railway brakesman, a sesamoid bone was found in the tendon of the flexor longus hallucis muscle, as it passed over the os calcis and astragalus. This bone was completely ossified and about the diameter of a sixpence; on its under surface were two facets for articulating with the os calcis and astragalus at this junction. Whether the man's occupation had anything to do with the development of this bone I do not know, but he certainly used his left foot in applying the brakes.

Varieties of the Pterygoideus Proprius Muscle.—A form of the pterygoideus proprius muscle was seen several times. In all the cases in which it existed, the upper head of the external pterygoid was very small, or wanting altogether. Although this muscle has not often been described, it occurs more frequently than is generally supposed, but is nearly always destroyed or mutilated by the student in removing part of the ramus of the lower jaw. I have seen it several times during the last five years, but it was always in such a mutilated condition that I never ventured to describe it. During last winter, I saw three examples of the pterygoideus proprius muscle, or rather a variety of it; one of these, which occurred in a young Indian girl, I carefully dissected out, and have now preserved in the Museum of the College. The following is a brief description of this specimen. "Superficially it is continuous at its origin with the under surface of the temporal muscle, but its chief and deep origin is from the pterygoid ridge of the sphenoid, and part of the great wing, in common with, but superficial to, the small upper head of the external pterygoid. From this origin the muscle curves downwards and towards the buccinator muscle, having along its inner border a well-defined tendon, and is inserted by a broad aponeurosis into the alveolar process of the superior maxilla, opposite the molar teeth and into the pterygo-maxillary ligament. Some of its muscular fibres also became blended with the buccinator muscle. In its course it crosses the external and internal pterygoid muscles. The muscle is somewhat fan-shaped, $\frac{3}{4}$ of an inch broad, and 2 inches long; from its under surface, in addition to the above attachments, it sends a small muscular fascicular below the internal pterygoid to be inserted into the tip of the hamular process of the internal pterygoid plate." Its action was evidently to assist in closing the jaws.

In the second case the abnormal muscle seemed chiefly to be con-

tinuous with the under surface of the temporal, a few fibres only arising from the pterygoid ridge. The slip was of small size, and was inserted altogether into the pterygo-maxillary ligament.

In the third case, the slip was of larger size, and arose from the great wing of the sphenoid and pterygoid ridge; it passed down and was inserted into the posterior part of the alveolar process of the upper jaw, and sent a thin muscular slip down over the internal pterygoid to be inserted into the inferior maxilla near its angle.

Rectus Thoracis.—This occurred on the left side of a male subject. It arose by a thin tendon from the anterior surface of the fourth rib, just external to the origin of the serratus magnus; from this origin it passed directly up over the third rib and under the pectoralis minor muscle, receiving some tendinous slips from the intercostal muscles, it then went over the second rib, and was inserted into the first rib immediately external to its junction with the costal cartilage. This muscle was $1\frac{1}{4}$ inch broad at its origin, and $\frac{1}{2}$ an inch broad at its insertion. In the same subject and on the same side the *Scalenus posticus* was attached to the third rib by a strong muscular slip.

Chondro Scapular.—This muscle occurred twice, in both cases on the right side of a male subject.

Case 1. The muscle arose from the upper border of the scapula near the notch, and also from the ligament over the notch, with the posterior belly of the omo-hyoid by a fleshy origin, it then passed forwards under the clavicle and subclavius muscle, and over the axillary vessels to be inserted into the costal cartilage of the first rib by a round tendon.

Case 2. In this case the origin was from the coracoid process, posterior to the insertion of the pectoralis minor muscle; it passed from this origin, which was broad and fleshy, along the lower border of the clavicle to be inserted, as in Case 1, by a round tendon into the costal cartilage of the first rib. It blended somewhat with the costo-coracoid membrane. The subject being very thin, this muscle was noticed before the integument was removed, on account of its standing out so prominently. On both sides in this subject the subclavius muscle was attached along the under surface of the clavicle from the sterno-clavicular articulation to the coraco-clavicular ligament, and also on the left side had an attachment to the root of the coracoid process. This latter would seem to be a fusion between the subclavius and chondro-scapular muscle.

Abnormal Lumbricalis.—In the left hand of a muscular male subject, the innermost lumbricalis arose by a long thin tendon from the raphe between the tendons of the sublimis digitorum going to the index and ring fingers; this tendon passed under the annular ligament, where it became muscular; it then passed beneath the superficial and deep flexor tendons, and wound round to the radial side of the little finger, where it was inserted as usual. The fleshy part of this lumbricalis was double the length of any of the others.

Splenius Colli.—In a male subject, the right splenius colli muscle consisted simply of two fasciculi, the upper one of which was blended

with the splenius capitis, and was inserted by a round tendon into the posterior surface of the transverse process of the atlas; the lower fasciculus arose from the fourth and fifth dorsal spines, passed up, received a small muscular slip from the fourth rib near its angle, and was inserted into the posterior tubercle of the transverse process of the third cervical vertebra. It also sent a broad tendinous attachment to the under surface of the levator anguli scapulæ.

Transversus Perinei.—On both sides in the same subject, this muscle was irregular. On the left side it had a very broad origin from the tuberosity of the ischium, and after continuing inwards for about $\frac{1}{8}$ th of an inch, divided into two parts; the *superior* ($1\frac{1}{2}$ inch long, and $\frac{1}{4}$ inch broad) passed upwards and inwards to become blended, partly with the fibres of the accelerator urinæ muscle which surround the bulb, and partly with those fibres which encircle the penis. The *inferior* part was broad and fan-shaped, the transverse fibres being inserted into the tendinous point of the perineum, the greater part of the muscle spreading out and blending with the levator ani. On the right side the erector penis and transverse muscles at their origin could not be separated; they passed upwards together as one muscle, and as this muscle advanced inwards it spread out widely and blended with the accelerator urinæ. I have several times seen the transversus perinei muscle of a fan-shape, a few only of its fibres being inserted into the tendinous point of the perineum, the rest being lost in the accelerator muscle.

Unusual variety of Mylo-hyoid Nerve.—On both sides of the same subject, this nerve, after giving branches to the anterior belly of the digastric and mylo-hyoid muscle, pierced the latter and joined the lingual nerve, thence its fibres were traced to the lingualis muscle, which it in great part supplied. The chorda tympani nerve was very minute, and sent only a very small filament to the lingualis.

Thyroid Cartilage pierced for passage of the superior Laryngeal Nerve and Artery.—In one subject on both sides, and in another on the right side only, the thyroid cartilage was pierced by a large foramen the size of a goose quill, through which passed the superior laryngeal nerve and artery. This foramen was situated in the great wing of the cartilage, $\frac{1}{4}$ of an inch below the tubercle on the upper border. Hienle mentions a foramen occurring occasionally for the passage of the superior laryngeal nerve, but I can find no record of a case where the artery accompanied the nerve.

Congenital absence of the Soft Palate.—In a male subject aged about 40, there was complete absence of the soft palate. The hard palate was covered with mucous membrane, which was continuous around the posterior edge of the hard palate with that of the nares. The hard palate was well formed, and measured $2\frac{1}{2}$ inches in length and $1\frac{1}{2}$ inches in breadth. The teeth were exceedingly regular and well formed, and not one was missing or decayed.

The Eustachian cartilages were of small size, and their outer edges were continuous with the posterior edge of the covering of the hard palate by a tendinous arch, to which was attached also the superior

constrictor muscle. The openings of the tubes were situated higher up than usual, on a level with the upper wall of the superior meatus, and quite close together on each side of the nasal septum. The bag of the pharynx, which was attached to the basilar portion of the occipital bone, was of great thickness, and fibro-cartilaginous in character. The levatores palati muscles as well as the uvular muscles were absent. The tensores palati muscles were fairly developed, and after passing around the hamular process were attached to some fibrous tissue over that process.

There were no traces of ulceration or of any disease about the throat. From the scanty information I could get of the man, I found that he had been in a lunatic asylum, and that previous to that he had been a local preacher. I could not learn positively that his speech was not affected, but it was not so much affected as to interfere with his occupation. The altered position of the openings of the Eustachian tubes would go to prove that this was a case of congenital absence of the soft palate.

